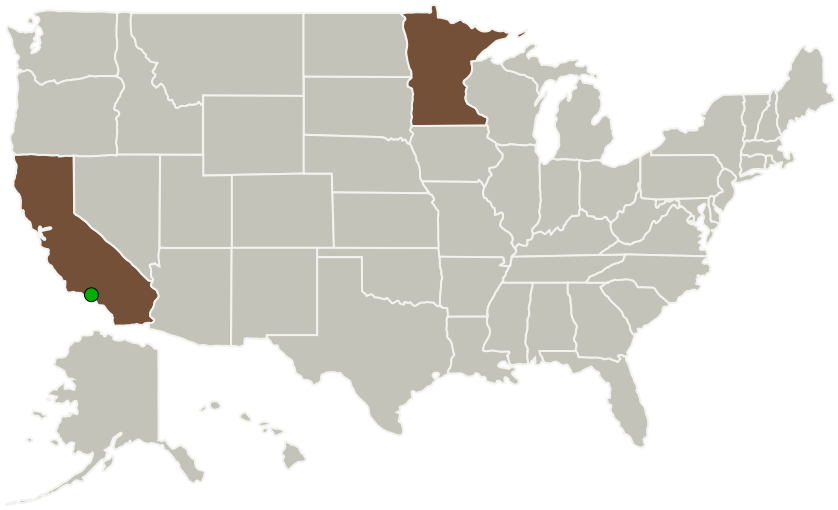
# High Power Wide Bandgap Engineered MMW MMIC Transceiver, Phase I

Completed Technology Project (2010 - 2010)

## Project Introduction

During this phase I SBIR effort unique proven lattice and bandgap engineering techniques will be utilized to epitaxially grow InAlAs / InGaAs on GaN substrate for the design and fabrication of high power reconfigurable transceiver single MMIC.

## Primary U.S. Work Locations and Key Partners



| Organizations Performing Work | Role | Type | Location |
|---|---|---|---|
| TLC Precision Wafer Technology, Inc. | Lead Organization | Industry<br>Minority-Owned Business, Small Disadvantaged Business (SDB) | Minneapolis, Minnesota |
| Jet Propulsion Laboratory(JPL) | Supporting Organization | NASA Center | Pasadena, California |

| Primary U.S. Work Locations | |
|---|---|
| California | Minnesota |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## Table of Contents


| | |
|---|---|
| Project Introduction | 1 |
| Primary U.S. Work Locations and Key Partners | 1 |
| Project Transitions | 2 |
| Organizational Responsibility | 2 |
| Project Management | 2 |
| Technology Maturity (TRL) | 2 |
| Technology Areas | 3 |
| Target Destinations | 3 |

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## Project Transitions

**January 2010:** Project Start

**July 2010:** Closed out

**Closeout Summary:** High Power Wide Bandgap Engineered MMW MMIC Transc eiver, Phase I Project Image

**Closeout Documentation:**

- Final Summary Chart Image*(https://techport.nasa.gov/file/139059)*

## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Organization:**

TLC Precision Wafer Technology, Inc.

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

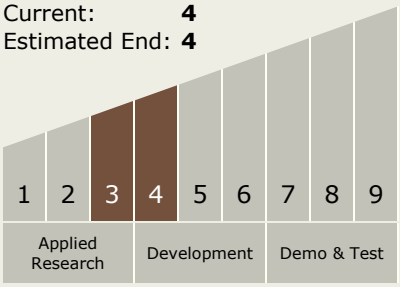
Carlos Torrez

**Principal Investigator:**

Timothy Childs

## Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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## Technology Areas

**Primary:**

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - TX05.2 Radio Frequency
    - TX05.2.2 Power-Efficiency

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System